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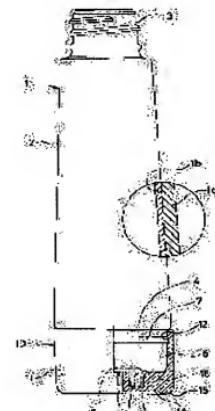
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(54) BOTTLE MADE OF SYNTHETIC RESIN

(57)Abstract:

PROBLEM TO BE SOLVED: To simply perform molding of a bottle made of a laminated synthetic resin easy to release between layers and to surely and simply obtain a rigid bottom mechanically stably by forming an atmosphere introducing port by utilizing a bottom crack of a bottom seal without reducing a mechanical strength of the bottom of the bottle as a container.

SOLUTION: A bottom sealing part 9 is provided along a parting line P on a lower surface of a bottom plate wall 8 of the bottom 5 of a bottle body 1 made of the laminated synthetic resin easy to release between layers, a pressing functional part 13 for operating a pressing force along the line P at the wall 8 is formed at a cylindrical wall 11 of a base cap 10 externally engaged with the bottom 5, and a slit S of the atmosphere introducing port between the layers is opened and formed at the part 9 by the pressing force of the part 13 of the cap 10 engaged with the bottom 5 to the wall 8.



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CLAIMS

[Claim(s)]

[Claim 1] Blow molding is carried out from cylindrical parison, and it consists of the outer layer (1a) of a fixed form, and the inner layer (1b) made the laminating of the exfoliation of free to this outer layer (1a). pars basilaris ossis occipitalis (5) of a cylinder-like-object-with-base configuration Bottom plate wall (8) an inferior surface of tongue -- parting line (P) The bottom seal section (9) which it meets, and said parison eats and is the end section Bottle body (1) projected and formed Said pars basilaris ossis occipitalis (5) It consists of base caps (10) of the cylinder-like-object-with-base configuration by which outside attachment attachment is carried out. Said pars basilaris ossis occipitalis (5) To the barrel wall (11) of the base cap (10) attached outside, it is said bottom plate wall (8). It receives and is a parting line (P). Bottle made of synthetic resin which forms the press function part (13) on which the thrust which met is made to act, and changes.

[Claim 2] Bottle body (1) Pars basilaris ossis occipitalis (5) Bottom plate wall (8) Parting line (P) It considers as the abbreviation ellipse plate configuration where the major axis was made to meet. About the barrel wall (11) of a base cap (10), it is said bottom plate wall (8). Although it is smaller than a major axis, it considers as the shape of a cylindrical shape of a larger bore than a minor axis, and it is said bottom plate wall (8). Bottle made of synthetic resin according to claim 1 which made the barrel wall (11) part which counters a part for a major-axis flank the press function part (13).

[Claim 3] Bottle body (1) Pars basilaris ossis occipitalis (5) Bottom plate wall (8) It considers as the shape of a disk type. The barrel wall (11) of a base cap (10) Said bottom plate wall (8) It considers as the shape of a cylindrical shape of a slightly larger bore than a diameter. Abbreviation parting line (P) Said bottom plate wall located upwards (8) At least to one side for two periphery edge surface parts Said parting line (P) Pars basilaris ossis occipitalis which met (5) Bottle made of synthetic resin according to claim 1 which made the barrel wall (11) part which protrudes the piece of a protrusion (8a) of the protrusion height which makes width of face larger than the bore of said barrel wall (11), and counters this piece of a protrusion (8a) the press function part (13).

[Claim 4] Bottle body (1) Pars basilaris ossis occipitalis (5) Bottom plate wall (8) It considers as the shape of a disk type. The barrel wall (11) of a base cap (10) Said bottom plate wall (8) It considers as the shape of a cylindrical shape of a slightly larger bore than a diameter, and protrusion edge spacing is said bottom plate wall (8) to the inner skin of said barrel wall (11). Bottle made of synthetic resin according to claim 1 which constituted the press function part (13) from the bulge section of the pair by which opposite formation was carried out with the configuration used as a value smaller than a diameter.

[Claim 5] Bottle body (1) Pars basilaris ossis occipitalis (5) Peripheral wall (6) It considers as the shape of an ellipse cartridge, and is the bottom plate wall (8) of an ellipse plate configuration. It is a parting line (P) about a major axis. It is made to meet. the barrel wall (11) of a base cap (10) -- said peripheral wall (6) that rotation displacement is possible and ejection impossible -- abbreviation -- bottle made of synthetic resin according to claim 1 which considered as the shape of an ellipse cartridge densely attached outside, and made a part for the minor-axis flank of this barrel wall (11) the press function part (13).

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the combination structure of the bottle body made of synthetic resin which consists of an outer layer fabricated by the fixed form and a inner layer made the laminating of the exfoliation of free to this outer layer and by which blow molding was carried out, and the base cap by which outside attachment attachment is carried out at the pars basilaris ossis occipitalis of this bottle body.

[0002]

[Description of the Prior Art] The blow molding bottle which was fabricated by the fixed form, and the outer layer which demonstrates high self-configuration maintenance capacity was made to carry out the laminating of the saccate inner layer which was rich in flexibility, and constituted it from a condition of exfoliating easily, in it and which is generally called a DERAMI bottle is known.

[0003] Although this bottle made of laminating synthetic resin by which blow molding was carried out carries out extrusion molding of the outer layer parison and inner layer parison which do not almost have compatibility to laminating parison by co-extrusion, blow molding of this laminating parison is carried out and it is obtained, since the bottom seal section of the pars basilaris ossis occipitalis which crushes and is fabricated in the pinch-off section of blow metal mold serves as a laminated structure of the outer layer part and inner layer part which do not almost have compatibility, a double-dip decline generates it easily into an outer layer part fundamentally.

[0004] Although shaping of this open air inlet becomes a very easy and positive thing in operating the slit established by the bottom seal section by double-dip decline as an inlet of the open air of a between [an outer layer and inner layers], this double-dip decline Since the slit fabricated by double-dip decline is located in the pars basilaris ossis occipitalis of a bottle, it generates serious un-arranging [which is referred to as reducing the mechanical strength of the pars basilaris ossis occipitalis of a bottle] by fabricating a slit.

[0005] For this reason, if it was in the former, the glue line was prepared, adhesion immobilization of the outer layer part and inner layer part of the bottom seal section was carried out firmly, and generating of a double-dip decline in the bottom seal section was prevented, instead the open air inlet was established by processing actuation of dedication into the opening cylinder part of a bottle, or the outer layer part of a drum section.

[0006] This conventional technique can arrange the open air inlet in the part which can introduce the open air smoothly, without spoiling the appearance appearance of a bottle, while having the mechanical strength firm and stabilized [the pars basilaris ossis occipitalis of the fabricated bottle].

[0007]

[Problem(s) to be Solved by the Invention] however, there was a problem which says the adhesion functional division which carries out adhesion immobilization of an outer layer and the inner layer that it will not become if there is no arrangement ** in the shape of a laminating, but for this reason the extrusion-molding equipment of parison has complicated structure, and becomes what has troublesome handling, changing most between an outer layer and a inner layer in between into the condition that it can exfoliate at an outer layer and a inner layer, if it was in the above-mentioned conventional technique.

[0008] moreover, since the troublesome post-processing actuation for establishing an open air inlet was needed apart from the blow molding of a bottle, there was a problem which the processing man day required by product completion says that handling becomes sharply troublesome in that part many for this reason.

[0009] Then, it aims at to stabilize mechanically and obtain a firm pars basilaris ossis occipitalis while this

invention makes it a technical technical problem to form an open air inlet using a double-dip decline of the bottom seal section, has it and attains shaping of this kind of bottle simply, without having been originated that the trouble in the above-mentioned conventional technique should be cancel, and reduce the mechanical strength of the pars basilaris ossis occipitalis of the bottle as a container.

[0010]

[Means for Solving the Problem] The means of invention according to claim 1 among this inventions which solve the above-mentioned technical technical problem Blow molding is carried out from cylindrical parison, and it consists of the outer layer of a fixed form, and the inner layer made the laminating of the exfoliation of free to this outer layer. It has the bottle body which parison ate on the bottom plate wall inferior surface of tongue of the pars basilaris ossis occipitalis of a cylinder-like-object-with-base configuration, and projected and formed in it the bottom seal section which is the end section along with the parting line, It is in forming the press function part on which the thrust which met the pars basilaris ossis occipitalis of a bottle body to the bottom plate wall of the pars basilaris ossis occipitalis of a bottle body at the parting line at the barrel wall of having the base cap of the cylinder-like-object-with-base configuration by which outside attachment attachment is carried out, and this base cap is made to act.

[0011] If the base cap made into the pars basilaris ossis occipitalis of a bottle body with the outside attachment group carries out the pressure welding of that press function part from extension of a parting line to the bottom plate wall of a bottle body and makes thrust act, the bottom seal section currently formed in the bottom plate wall of a bottle body in the shape of a protruding line of this thrust will fall through the bottom along with a parting line, and will carry out opening formation of the slit in the outer layer of a bottom plate wall.

[0012] The pars basilaris ossis occipitalis of a bottle body which carried out opening formation of the slit in a bottom plate wall Since it is in the condition of having been covered with the base cap carried out with the outside attachment group By this base cap's functioning as an outer shell object, being reinforced mechanically, and having carried out opening formation of the slit by this Even if the mechanical strength of the pars basilaris ossis occipitalis of a bottle body itself falls, it does not generate un-arranging [of inconvenience mechanical as a bottom part of a bottle, for example a seat function, falling], and the bottom part of a bottle consists of conditions of having been stabilized mechanically.

[0013] Invention according to claim 2 adds what it formed in the abbreviation ellipse plate configuration where meet invention according to claim 1 in the bottom plate wall of the pars basilaris ossis occipitalis of a bottle body, and it made the major axis meet a parting line, the barrel wall of a base cap was made into the shape of a cylindrical shape of a larger bore than a minor axis although it was smaller than the major axis of the bottom plate wall of a bottle body, and the barrel wall part of the base cap which counters a part for the major-axis flank of the bottom plate wall of a bottle body was made into the press function part for.

[0014] If it is in this invention according to claim 2, no matter the posture of the hoop direction of the base cap to a bottle body may be what thing, a part of barrel wall of a base cap does not need to perform alignment which faced attaching a base cap to a bottle body since a part for the major-axis flank of the peripheral wall of a bottle body is surely countered as a press function part, and met the mutual hoop direction, and proper attachment by the bottle body and the base cap is attained simply.

[0015] Invention according to claim 3 makes the bottom plate wall of the pars basilaris ossis occipitalis of a bottle body the shape of a disk type at invention according to claim 1. The barrel wall of a base cap is made into the shape of a cylindrical shape of a slightly larger bore than the diameter of the bottom plate wall of a bottle body. At least to one side for two periphery edge surface parts of the bottom plate wall of a bottle body located on an abbreviation parting line The piece of a protrusion of the protrusion height which makes width of face of the pars basilaris ossis occipitalis in alignment with a parting line larger than the bore of the barrel wall of a base cap is protruded, and what the barrel wall part of the base cap which counters this piece of a protrusion was made into the press function part for is added.

[0016] If it is in this invention according to claim 3, no matter the posture of the hoop direction of the base cap to a bottle body may be what thing, since a part of barrel wall of a base cap counters the piece of a protrusion of the pars basilaris ossis occipitalis of a bottle body as a press function part, surely It faces attaching a base cap to a bottle body, and it is not necessary to perform alignment along a mutual hoop direction. By attaining simply proper attachment by the bottle body and the base cap, and projecting to the periphery end face of the shape of a disk type of a bottle body, since it is the easy structure which protruded the piece, the operation becomes easy.

[0017] Invention according to claim 4 makes the bottom plate wall of the pars basilaris ossis occipitalis of a bottle body the shape of a disk type at invention according to claim 1. The barrel wall of a base cap is made into the shape of a cylindrical shape of a slightly larger bore than the diameter of the bottom plate wall of a bottle body. What the press function part was constituted for from the bulge section of the pair by which opposite formation was carried out with the configuration in which protrusion edge spacing serves as a value smaller than the diameter of the bottom plate wall of a bottle body is added to the inner skin of the barrel wall of a base cap.

[0018] If it is in this invention according to claim 4, since it has the shape of a cylindrical shape with simple peripheral wall of the pars basilaris ossis occipitalis of a bottle body and barrel wall of a base cap, shaping processing of a bottle body, mutual dimension doubling of a base cap, etc. becomes easy.

[0019] invention according to claim 5 makes the peripheral wall of the pars basilaris ossis occipitalis of a bottle body the shape of an ellipse cartridge, and meets invention according to claim 1 in the major axis of the bottom plate wall of an ellipse plate configuration at a parting line -- making -- the barrel wall of a base cap -- that the rotation displacement to the peripheral wall of a bottle body is possible, and ejection impossible -- abbreviation -- what it considered as the shape of an ellipse cartridge densely attached outside, and a part for the minor-axis flank of the barrel wall of this base cap was made into the press function part for is added.

[0020] The powerful operating physical force for attaching at the time of fitting attachment of the base cap to a bottle body, simultaneously forming a slit at it, since the peripheral wall of a bottle body and the barrel wall of a base cap have the shape of same ellipse cartridge, if it is in this invention according to claim 5 is not required, and formation of a slit is attained by carrying out quadrant rotation of the base cap which clinched the bottle body at the time of the need.

[0021]

[Embodiment of the Invention] Hereafter, the example of this invention is explained, referring to a drawing. Drawing 1 thru/or drawing 5 are what shows the structure of one example of the bottle body 1 in this invention. A bottle body 1 With synthetic-resin ingredients, such as high density polyethylene, polypropylene, and polyethylene terephthalate It is the blow molding article to which the laminating of the inner layer 1b which is a synthetic-resin ingredient with low compatibility, and was fabricated by saccate [in which bending deformation is free] to outer layer 1a which gave the self-configuration maintenance capacity to need and was fabricated, and outer layer 1a, such as nylon, Eval, and low density polyethylene, was carried out.

[0022] Outer layer 1a and inner layer 1b of a bottle body 1 are the part which avoided the parting line for outer layer 1a and inner layer 1b, and are good to carry out adhesion immobilization by the band-like glue line prepared over all the height range of a bottle body 1 so that monolayer structure or a laminated structure is sufficient, and inner layer 1b may fade and deformation may become proper.

[0023] The drum section 2 of this bottle body 1 is carrying out the shape of a truncated-cone cartridge whose diameter was reduced slightly up, to the upper limit of a drum section 2, carries out standing-up successive formation of the opening cylinder part 3 which engraved the spiral rib on the peripheral face, and is forming successively the partes basilaris ossis occipitalis 5 of the cylinder-like-object-with-base configuration by which diameter reduction formation was carried out through the step 4 in the lower limit of a drum section 2.

[0024] A pars basilaris ossis occipitalis 5 forms successively the bottom plate walls 8 which parison ate to the central subordinate side who collapsed to the way the lower limit of the peripheral wall 6 of the shape of a cartridge which attached the circumferential protruding line 7 around the peripheral face upper part among bottle bodies 1, and formed in it the bottom seal section 9 which is the end section in the shape of a protruding line along with the parting line P, and is constituted.

[0025] Drawing 1 , drawing 6 , and drawing 7 are what shows the structure of one example of the base cap 10 in this invention. A base cap 10 It is that in which injection molding was carried out by comparatively hard polyethylene, polypropylene, ABS, AS, etc. To the lower limit of the barrel wall 11 of the shape of a cartridge which attached around the inner skin upper part the circumferential concave 12 with which the circumferential protruding line 7 of a bottle body 1 engages While setting up the piece 17 of an open cylinder which formed successively the bottom walls 14 of the shape of a disk which ******(ed) the foot protruding line 15 with low height in the inferior-surface-of-tongue peripheral edge section, and was wide opened up and down in the center section of this bottom wall 14 The support rib 16 of plurality (an illustration example eight) which supports the pars basilaris ossis occipitalis 5 of a bottle body 1 into the successive formation part of a bottom wall 14 and a

barrel wall 11 is set up to the radial.

[0026] As opposed to drawing 8 and drawing 9 showing the 1st example of the press function part 13, and the barrel wall 11 of a base cap 10 serving as the shape of a perfect circle cartridge of the bore of a dimension C The major axis of the dimension B located on a parting line P the bottom plate wall 8 of the pars basilaris ossis occipitalis 5 of a bottle body 1 The minor axis of the dimension a which is larger than the bore of a barrel wall 11, and is located in a right angle to a parting line P The shape of an ellipse cartridge smaller than the bore of a barrel wall 11 is carried out, and when outside attachment attachment of the base cap 10 is carried out at the pars basilaris ossis occipitalis 5 of a bottle body 1, barrel wall 11 part which counters the major-axis flank of the bottom plate wall 8 serves as the press function part 13.

[0027] In this drawing 8 illustration example, if outside attachment attachment of the base cap 10 is carried out forcibly, the bottom plate wall 8 will be pressed by the pars basilaris ossis occipitalis 5 along with a major axis by the press function part 13 of a base cap 10, namely, the bottom seal section 9 of the bottom plate wall 8 is pressed along with a parting line P, and as this shows drawing 9, Slit S is established by the bottom seal section 9.

[0028] As opposed to the bottom plate wall 8 which drawing 10 shows the 2nd example of the press function part 13, and carried out the perfect circle configuration the barrel wall 11 of a base cap 10 The shape of a perfect circle cartridge of the bore of the slightly larger dimension E than the diameter of the dimension D of the bottom plate wall 8 is carried out. The width method F between protrusion edges protrudes piece of protrusion 8a of a pair in the protrusion height which becomes large slightly from the dimension E of the bore of a barrel wall 11, and barrel wall 11 part which counters at this piece of protrusion 8a becomes two periphery edge surface parts of the bottom plate wall 8 on a parting line P with the press function part 13.

[0029] In this drawing 10 illustration example, since piece of protrusion 8a of a pars basilaris ossis occipitalis 5 will be stuffed into a pars basilaris ossis occipitalis 5 by the press function part 13 of a base cap 10 if outside attachment attachment of the base cap 10 is carried out forcibly, the bottom plate wall 8 is pressed along with a parting line P, namely, the bottom seal section 9 is pressed along with a parting line P, as shown in drawing 11, Slit S is established by the bottom seal section 9.

[0030] As opposed to the bottom plate wall 8 which drawing 12 shows the 3rd example of the press function part 13, and carried out the perfect circle configuration the barrel wall 11 of a base cap 10 While carrying out the shape of a perfect circle cartridge of a slightly larger bore than the diameter of the dimension G of the bottom plate wall 8, in the suitable opposite part of inner skin, that protrusion edge spacing H prepares the bulge section which becomes small, and constitutes the press function part 13 from a diameter of the bottom plate wall 8 by this bulge section.

[0031] This drawing 12 illustration example is in the condition which carried out alignment of the press function part 13 of a barrel wall 11 to the parting line P of a pars basilaris ossis occipitalis 5, and Slit S is established like the case where it illustrates to drawing 9, by carrying out outside attachment attachment of the base cap 10 forcibly at a pars basilaris ossis occipitalis 5.

[0032] By showing the 4th example of the press function part 13, making the bottom plate wall 8 elliptical [in which the major axis was located along with the parting line P], and making the inner skin flat-surface configuration of the barrel wall 11 of a base cap 10 into the same configuration and same dimension as the bottom plate wall 8, drawing 13 can carry out outside attachment attachment of the base cap 10 that there is no unreasonableness in a pars basilaris ossis occipitalis 5, as shown in drawing 13 (a).

[0033] If quadrant rotation of the base cap 10 is carried out from this condition to the pars basilaris ossis occipitalis 5 of a bottle body 1 as shown in drawing 13 (b), the amount of [of the barrel wall 11 of a base cap 10] minor-axis flank will function as a press function part 13, it will press the bottom plate wall 8 along with a parting line P, and will establish Slit S in the bottom seal section 9.

[0034]

[Effect of the Invention] Since this invention has the above-mentioned composition, it does so the effectiveness taken below. If it is in invention according to claim 1, since the inlet of the open air of a between [an outer layer and inner layers] was used as the slit formed in the bottom plate wall inferior surface of tongue of the pars basilaris ossis occipitalis of a bottle body by double-dip decline by press actuation of the bottom seal section fabricated in the pinch-off section of blow metal mold, easily, certainly, it is stabilized and an open air inlet can be fabricated.

[0035] Moreover, since the slit as an open air inlet is fabricated in that bottom plate wall using a double-dip decline, that mechanical strength will fall, but since the base cup whose mechanical strength is stable makes the pars basilaris ossis occipitalis of a bottle body this pars basilaris ossis occipitalis with the outside attachment group, it is in the condition of it having been covered from this base cup and having been reinforced, and, for this reason, becomes what was stabilized mechanically as a pars basilaris ossis occipitalis of a bottle.

[0036] If it is in invention according to claim 2, it is not necessary to perform alignment along the hoop direction of attachment of the base cap to the pars basilaris ossis occipitalis of a bottle body, and outside attachment attachment of the base cap to the pars basilaris ossis occipitalis of a bottle body can be attained simply and proper.

[0037] Since the shape of a simple cylindrical shape is basic structure while not performing alignment along the hoop direction of attachment of the base cap to the pars basilaris ossis occipitalis of a bottle body and being able to attain outside attachment attachment of the base cap to the pars basilaris ossis occipitalis of a bottle body simply and proper, if it is in invention according to claim 3, structure is easy and operation is easy.

[0038] If it is in invention according to claim 4, since it has the shape of a cylindrical shape with simple peripheral wall of the pars basilaris ossis occipitalis of a bottle body and barrel wall of a base cap, shaping processing of a bottle body, mutual dimension doubling of a base cap, etc. can be made very easy.

[0039] Since fitting attachment of the base cap to a bottle body can be attained, without requiring a mighty attachment operating physical force since the peripheral wall of the pars basilaris ossis occipitalis of a bottle body and the barrel wall of a base cap have the shape of same ellipse cartridge, if it is in invention according to claim 5, and formation can attain a slit only by carrying out quadrant rotation of the base cap to a bottle body, a slit can be formed easily at the time of the need.

[Translation done.]

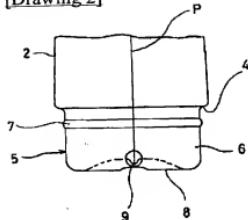
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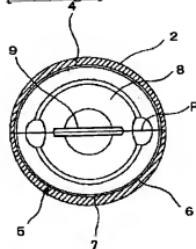
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DRAWINGS

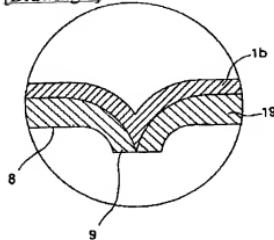
[Drawing 2]



[Drawing 3]



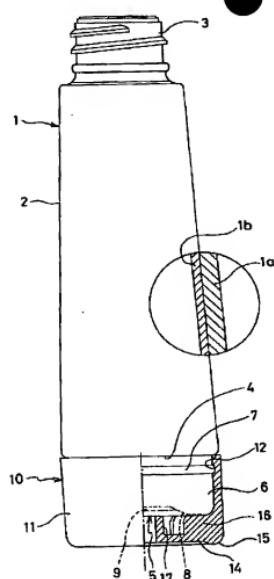
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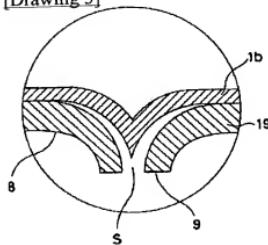
[Drawing 1]

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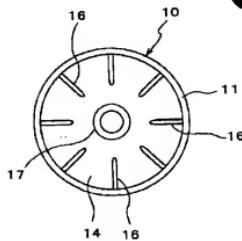
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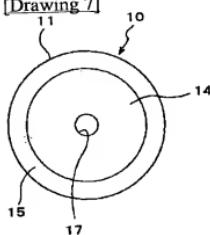
[Drawing 5]



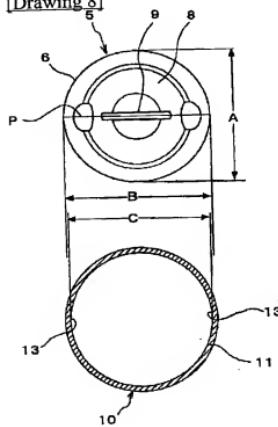
[Drawing 6]



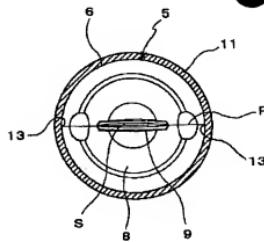
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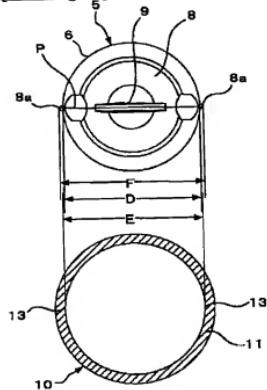
[Drawing 8]



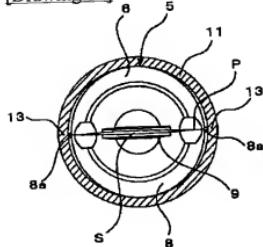
[Drawing 9]



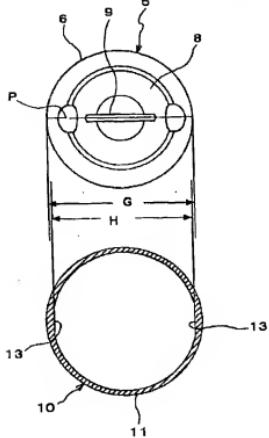
[Drawing 10]



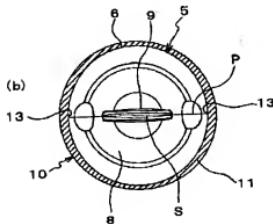
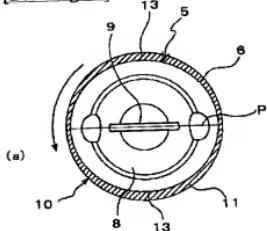
[Drawing 11]



[Drawing 12]



[Drawing 13]



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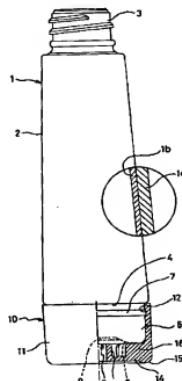
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(54)【発明の名称】 合成樹脂製壜体

(57)【要約】

【課題】 容器としての壜体の底部の機械的強度を低下させることなく、底シール部の底割れを利用して外気導入口を形成することにより、層間剥離の容易な積層合成樹脂製壜体の成形を簡便に達成すると共に、機械的に安定して強固な底部を確実に、かつ簡単に得る。

【解決手段】 層間剥離の容易な積層合成樹脂製壜本体1の底部5の底板壁8の下面にパーティングラインPに沿って底シール部9を設け、この底部5に外板壁付きするベースキャップ10の筒壁11に、底板壁8にに対してパーティングラインPに沿って押圧力を作用させる押圧機能部13を形成し、底部5に組付いたベースキャップ10の押圧機能部13の底板壁8に対する押圧力により、底シール部9に、層間への外気導入口であるスリットSを開口形成する。



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【特許請求の範囲】

【請求項1】 円筒状バリソンからブロー成形され、定形の外層(1a)と、該外層(1a)に剥離自在に積層した内層(1b)とから成り、有底筒形状の底部(5)の底板壁(8)下面に、パーティングライン(9)に沿って、前記バリソンの食い切り部である底シール部(9)を突出形成した罐本体(1)と、前記底部(5)に外嵌組付けされる有底筒形状のベースキャップ(10)とから構成され、前記底部(5)に外嵌するベースキャップ(10)の筒壁(11)に、前記底板壁(8)に対してパーティングライン(9)に沿った押圧力を作用させる押圧機能部(13)を形成して成る合成樹脂製罐体。

【請求項2】 罐本体(1)の底部(5)の底板壁(8)を、パーティングライン(9)に長径を沿わせた略階円板形状とし、ベースキャップ(10)の筒壁(11)を、前記底板壁(8)の長径よりも小さいが、短径よりも大きい内径の円筒形状とし、前記底板壁(8)の長径側部分に対向する筒壁(11)部分を押圧機能部(13)とした請求項1記載の合成樹脂製罐体。

【請求項3】 罐本体(1)の底部(5)の底板壁(8)を円板形状とし、ベースキャップ(10)の筒壁(11)を、前記底板壁(8)の直径よりもわずかに大きい内径の円筒形状とし、略パーティングライン(9)上に位置する、前記底板壁(8)の二つの外周端面部分の少なくとも一方に、前記パーティングライン(9)に沿った底部(5)の幅を、前記筒壁(11)の内径よりも大きくなる突出高さの突出片(8a)を突起し、該突出片(8a)に対向する筒壁(11)部分を押圧機能部(13)とした請求項1記載の合成樹脂製罐体。

【請求項4】 罐本体(1)の底部(5)の底板壁(8)を円板形状とし、ベースキャップ(10)の筒壁(11)を、前記底板壁(8)の直径よりもわずかに大きい内径の円筒形状とし、前記筒壁(11)の内周面に、突出端間隔が前記底板壁(8)の直径よりも小さい値となる構成で対向形成された一対の膨出部で押圧機能部(13)を構成した請求項1記載の合成樹脂製罐体。

【請求項5】 罐本体(1)の底部(5)の周壁(6)を梢円筒形状とし、かつ梢円板形状の底板壁(8)の長径をパーティングライン(9)に沿わせ、ベースキャップ(10)の筒壁(11)を、前記周壁(6)に回転変位可能かつ抜け出し不能に略密に外嵌する梢円筒形状とし、該筒壁(11)の短径側部分を押圧機能部(13)とした請求項1記載の合成樹脂製罐体。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】 本発明は、定形に成形された外層と、この外層に剥離自在に積層した内層とから構成される、ブロー成形された合成樹脂製の罐本体と、この罐本体の底部に外嵌組付けされるベースキャップとの組合せ構造に関するものである。

【0002】

【従来の技術】 定形に成形されて、高い自己形状保持能を発揮する外層に、可搬性に富んだ袋状の内層を、容易に剥離する状態で積層させて構成した、一般にデラミボトルと称されるブロー成形罐体が知られている。

【0003】 このブロー成形された積層合成樹脂製罐体は、相溶性の殆ど無い外層バリソンと内層バリソンとを共押し出しして積層バリソンに押し出し成形し、この積層バリソンをブロー成形して得られるが、ブロー型金のビンチオフ部で押し潰し成形される底部の底シール部は、基本的に相溶性の殆ど無い外層部分と内層部分との積層構造となるため、外層部分に容易に底割れが発生する。

【0004】 この底割れは、底割れにより底シール部に開設されたスリットを、外層と内層との間への外気の導入口として機能させる場合には、この外気導入口の成形が、きわめて簡単で確実なものとなるのであるが、底割れにより成形されるスリットが罐体の底部に位置しているため、スリットを成形することにより、罐体の底部の機械的強度を低下させると云う、重大な不都合を発生する。

【0005】 このため、従来にあっては、接着層を設けて底シール部の外層部分と内層部分を強固に接着固定して、底シール部での底割れの発生を防止し、その代わりに、罐体の口部または胴部の外層部分に、外気導入口を専用の加工操作で開設していた。

【0006】 この従来技術は、成形された罐体の底部を、強度で安定した機械的強度を有するものとすることができると共に、罐体の外観体裁を損なうことなく、円滑に外気を導入できる箇所に外気導入口を配置することができるものとなっている。

【0007】

【発明が解決しようとする課題】 しかしながら、上記した従来技術にあっては、外層と内層とに間に、外層と内層との間の大部分を剥離可能な状態にしました、外層と内層を接着固定する接着機能部分を積層状に配置さなければならず、このためバリソンの押し出し成形装置が、構造が複雑で取扱いが面倒なものとなる、と云う問題があつた。

【0008】 また、罐体のブロー成形とは別に、外気導入口を開設するための面倒な後加工操作を必要とするので、製品完成までに要する処理工数が、その分、多くなり、このため取扱いが大幅に面倒となる、と云う問題があつた。

【0009】 そこで、本発明は、上記した従来技術における問題点を解消すべく創案されたもので、容器としての罐体の底部の機械的強度を低下させることなく、底シール部の底割れを利用して外気導入口を形成することを技術的課題とし、もってこの種の罐体の成形を簡単に達成すると共に、機械的に安定して強固な底部を得ること

50 を目的とする。

【0010】

【課題を解決するための手段】上記技術的課題を解決する本発明の内、請求項1記載の発明の手段は、円筒状バリソンからプロー成形され、定形の外層と、この外層に剥離自在に積層した内層とから成り、有底筒形状の底部の底板壁下面に、パーティングラインに沿って、バリソンの食い切り部である底シール部を突出形成した塙本体を有すること、塙本体の底部に外嵌組付けされる、有底筒形状のベースキャップを有すること、このベースキャップの筒壁に、塙本体の底部の底板壁に対して、パーティングラインに沿った押圧力を作用させる、押圧機能部を形成すること、にある。

【0011】塙本体の底部に外嵌組付けしたベースキャップが、その押圧機能部を、塙本体の底板壁に対して、パーティングラインの延長上から圧接させて、押圧力を作用させると、この押圧力により塙本体の底板壁に突条状に形成されている底シール部が、パーティングラインに沿って底割れして、底板壁の外層にスリットを開口形成する。

【0012】底板壁にスリットを開口形成させた塙本体の底部は、外嵌組付けしたベースキャップにより覆われた状態となっているので、このベースキャップが外殻体として機能して機械的に補強されることになり、これによりスリットを開口形成したことにより、塙本体の底部そのものの機械的強度が低下しても、塙本体の底部分としては機械的不都合、例えば座機能が低下する等の不都合を発生することができなく、塙本体の底部分を機械的に安定した状態で構成する。

【0013】請求項2記載の発明は、請求項1記載の発明に、塙本体の底部の底板壁を、パーティングラインに長径を沿わせた略円板形状に形成し、ベースキャップの筒壁を、塙本体の底板壁の長径よりも小さいが、短径よりも大きい内径の円筒形状とし、塙本体の底板壁の長径側部に対向するベースキャップの筒壁部分を押圧機能部とした、ことを加えたものである。

【0014】この請求項2記載の発明にあっては、塙本体に対するベースキャップの周方向の姿勢がどのようなものであっても、ベースキャップの筒壁の一部が、必ず塙本体の周壁の長径側部分に、押圧機能部として対向するので、塙本体に対してベースキャップを組付けるに際して、相互間の周方向に沿った位置合わせを行う必要がなく、塙本体とベースキャップとの適正な組付けが簡単に達成される。

【0015】請求項3記載の発明は、請求項1記載の発明に、塙本体の底部の底板壁を円板形状とし、ベースキャップの筒壁を、塙本体の底板壁の直径よりもわずかに大きい内径の円筒形状とし、略パーティングライン上に位置する、塙本体の底板壁の二つの外周端面部の少なくとも一方に、パーティングラインに沿った底部の幅を、ベースキャップの筒壁の内径よりも大きくなる突出

高さの突出片を突設し、この突出片に対向するベースキャップの筒壁部分を押圧機能部とした、ことを加えたものである。

【0016】この請求項3記載の発明にあっては、塙本体に対するベースキャップの周方向の姿勢がどのようなものであっても、ベースキャップの筒壁の一部が、必ず塙本体の底部の突出片に、押圧機能部として対向するので、塙本体に対してベースキャップを組付けるに際して、相互間の周方向に沿った位置合わせを行う必要がなく、塙本体とベースキャップとの適正な組付けが簡単に達成され、また塙本体の円板形状の外周端面に突出片を突設しただけの簡単な構造であるので、その実施が容易となる。

【0017】請求項4記載の発明は、請求項1記載の発明に、塙本体の底部の底板壁を円板形状とし、ベースキャップの筒壁を、塙本体の底板壁の直径よりもわずかに大きい内径の円筒形状とし、ベースキャップの筒壁の内周面に、突出端間隔が塙本体の底板壁の直径よりも小さい値となる構成で対向形成された一対の膨出部で押圧機能部を構成した、ことを加えたものである。

【0018】この請求項4記載の発明にあっては、塙本体の底部の周壁およびベースキャップの筒壁共に、単純な円筒形状であるので、塙本体およびベースキャップの相互寸法合わせ等の成形処理が簡単となる。

【0019】請求項5記載の発明は、請求項1記載の発明に、塙本体の底部の周壁を横円筒形状とし、かつ横円板形状の底板壁の長径をパーティングラインに沿わせ、ベースキャップの筒壁を、塙本体の周壁に回転変位可能かつ抜け出し不能に略密に外嵌する横円筒形状とし、このベースキャップの筒壁の短径側部分を押圧機能部とした、ことを加えたものである。

【0020】この請求項5記載の発明にあっては、塙本体の周壁とベースキャップの筒壁とが、同じ横円筒形状であるので、塙本体に対するベースキャップの嵌合組付け時に、組付けと同時にスリットを形成するための強力な操作力を要せず、またスリットの形成は、必要時に、塙本体に組付いたベースキャップを、4分の1回転させることにより達成される。

【0021】
40【発明の実施の形態】以下、本発明の実施例を、図面を参照しながら説明する。図1ないし図5は、本発明における塙本体1の一実施例の構造を示すもので、塙本体1は、高密度ポリエチレン、ポリプロピレン、ポリエチレンテレフタレート等の合成樹脂材料で、必要とする自己形状保持能力を持たせて成形された外層1aと、ナイロン、エバール、低密度ポリエチレン等の外層1aに対しして相溶性の低い合成樹脂材料で、拘み変形が自在な袋状に成形された内層1bとを、積層させたプロー成形品である。

50【0022】塙本体1の外層1aおよび内層1bは、単

層構造でも横層構造でも良く、また内層1bの歪み变形が適正なものとなるように、外層1aと内層1bとを、パーティングラインを避けた箇所で、塙本体1の全高さ範囲にわたって設けた帯状の接着層により、接着固定するのが良い。

〔0023〕この塙本体1の洞部2は、上方にわずかに縮径した円錐台筒形状をしており、洞部2の上端には、外周面に螺栓を刺した口筒部3を起立設し、洞部2の下端には、段部4を介して経路形成された有底筒形状の底部5を連設している。

〔0024〕底部5は、外周面上部に周突条7を周設した筒形状の周壁6の下端に、塙本体1の内方に隣設させた中央部下面に、パリソンの無い切り部である底シール部9を、パーティングラインPに沿って突条状に形成した底板壁8を連設して構成されている。

〔0025〕図1と図6および図7は、本発明におけるベースキャップ10の一実施例の構造を示すもので、ベースキャップ10は、比較的硬質なポリエチレン、ポリプロピレン、ABS、ABS等により射出成形されたもので、内周面上部に、塙本体1の周突条7が係する周囲溝12を設した筒形状の筒壁11の下端に、下面周端部に高さの低い脚突条15を周設した平底板状の底壁14を連設し、この底壁14の中央部に、上下に開放した開放筒片17を立設すると共に、底壁14と筒壁11との連設部分に、塙本体1の底部5を支える複数(図示実施例では、8つ)の支持リブ16を放射状に立設している。

〔0026〕図8と図9は、押圧機能部13の第1の実施例を示すもので、ベースキャップ10の筒壁11は寸法Cの内径の真円筒形状となっているのに対して、塙本体1の底部5の底板壁8は、パーティングラインP上に位置するリブBの長径が、筒壁11の内径よりも大きく、パーティングラインPに対して直角に位置する寸法Aの短径が、筒壁11の内径よりも小さい梢円筒形状をしており、塙本体1の底部5にベースキャップ10を外嵌組付けした際に、底板壁8の長径側部に対向する筒壁11部分が押圧機能部13となる。

〔0027〕この図8図示実施例では、底部5にベースキャップ10を強引に外嵌組付けすると、ベースキャップ10の押圧機能部13により底板壁8が長径に沿って押圧され、すなわち底板壁8の底シール部9がパーティングラインPに沿って押圧され、これにより図9に示すように、底シール部9にスリットSが開設される。

〔0028〕図10は、押圧機能部13の第2の実施例を示すもので、真円形状をした底板壁8に対して、ベースキャップ10の筒壁11は、底板壁8の寸法Dの直径よりもわずかに大きい寸法Eの内径の真円筒形状をしており、パーティングラインP上の底板壁8の二つの外周端面部分に、突出端間の寸法Fが、筒壁11の内径の寸法Eよりもわずかに大きくなる突出高さで、一対の突

出片8aを突設し、この突出片8aに対向する筒壁11部分が押圧機能部13となる。

〔0029〕この図10図示実施例では、底部5にベースキャップ10を強引に外嵌組付けすると、底部5の突出片8aがベースキャップ10の押圧機能部13により押し込まれて、底板壁8がパーティングラインPに沿って押圧され、すなわち底シール部9がパーティングラインPに沿って押圧されるので、図11に示すように、底シール部9にスリットSが開設される。

〔0030〕図12は、押圧機能部13の第3の実施例を示すもので、真円形状をした底板壁8に対して、ベースキャップ10の筒壁11は、底板壁8の寸法Gの直径よりもわずかに大きい内径の真円筒形状をとっていると共に、内周面の適当な対向箇所に、その突出端間隙Hが底板壁8の直径よりも小さくなる膨出部を設け、この膨出部により押圧機能部13を構成している。

〔0031〕この図12図示実施例は、筒壁11の押圧機能部13を底部5のパーティングラインPに位置合わせした状態で、ベースキャップ10を底部5に強引に外嵌組付けすることにより、図9に示した場合と同様にスリットSが開設される。

〔0032〕図13は、押圧機能部13の第4の実施例を示すもので、底板壁8を、パーティングラインPに沿って長径を位置させた梢円形状とし、ベースキャップ10の筒壁11の内周面平面形状を、底板壁8と同じ形状および寸法とすることによって、図13(a)に示すように、ベースキャップ10を底部5に無理なく外嵌組付けすることができる。

〔0033〕この状態から、図13(b)に示すように、塙本体1の底部5に対してベースキャップ10を4分の1回転させると、ベースキャップ10の筒壁11の短径側部分が押圧機能部13として機能して、底板壁8をパーティングラインPに沿って押圧し、底シール部9にスリットSを開設する。

〔0034〕【発明の効果】本発明は、上記した構成となっているので、以下に示す効果を奏する。請求項1記載の発明にあっては、外層と内層との間への外気の導入口を、塙本体の底部の底板壁下面に、ブロー全型のビンチオフ部で成形された底シール部の押圧操作による底割れで形成されるスリットとしたので、外気導入口を簡単にかつ確実にそして安定して成形することができる。

〔0035〕また、塙本体の底部は、その底板壁に外気導入口としてのスリットを、底割れを利用して成形するので、その機械的強度が低下していることになるが、この底部には、機械的強度の安定しているベースキャップが外嵌組付けしているので、このベースキャップにより覆われて補強された状態となっており、このため塙本体の底部としては、機械的に安定したものとなる。

50 〔0036〕請求項2記載の発明にあっては、塙本体の

底部に対するベースキャップの組付けの周方向に沿った位置合わせを行う必要がなく、壇本体の底部に対するベースキャップの外嵌組付けを、簡単にかつ適正に達成することができる。

【0037】請求項3記載の発明にあっては、壇本体の底部に対するベースキャップの組付けの周方向に沿った位置合わせを行う必要がなく、壇本体の底部に対するベースキャップの外嵌組付けを、簡単にかつ適正に達成することができると共に、単純な円筒形状が基本構造であるので、構造が簡単で、実施が容易である。

【0038】請求項4記載の発明にあっては、壇本体の底部の周壁およびベースキャップの筒壁共に、単純な円筒形状であるので、壇本体およびベースキャップの相互寸法合わせ等の成形処理をきわめて簡単なものとすることができる。

【0039】請求項5記載の発明にあっては、壇本体の底部の周壁とベースキャップの筒壁とが、同じ梢円筒形状であるので、壇本体に対するベースキャップの嵌合組付けを、強大な組付け操作力を要すことなく達成でき、またスリットを形成は、壇本体に対してベースキャップを4分の1回転させるだけで達成できるので、スリットを必要時に簡単に形成することができる。

【図面の簡単な説明】

【図1】本発明の一実施例を示す、一部横断および拡大断面した正面図。

【図2】図1に示した壇本体の底部を示した、部分側面図。

【図3】図1に示した壇本体の底面図。

【図4】図2中、丸印した部分の拡大断面図。

【図5】図4に示した部分の、スリット形成状態を示す拡大断面図。

【図6】図1に示したベースキャップの平面図。

【図7】図6に示したベースキャップの底面図。

【図8】押圧機能部の第1の構成例を示す、構成説明 *

* 図。

【図9】図8に示した構成による、スリット形成状態図。

【図10】押圧機能部の第2の構成例を示す、構成説明図。

【図11】図10に示した構成による、スリット形成状態図。

【図12】押圧機能部の第3の構成例を示す、構成説明図。

【図13】押圧機能部の第4の構成例を示す、構成説明図。

【符号の説明】

1 : 壇本体

1a : 外層

1b : 内層

2 : 胫部

3 : 口筒部

4 : 段部

5 : 底部

6 : 周壁

7 : 周突条

8 : 底板壁

8a : 突出片

9 : 底シール部

10 : ベースキャップ

11 : 筒壁

12 : 周回溝

13 : 押圧機能部

14 : 底壁

15 : 胫突条

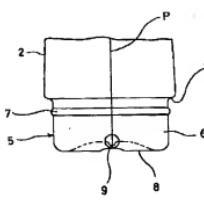
16 : 支持リブ

17 : 開放シップ

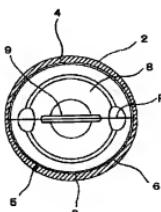
S : スリット

P : パーティングライン

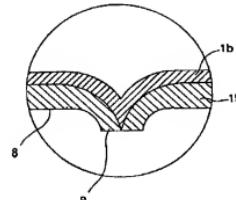
【図2】



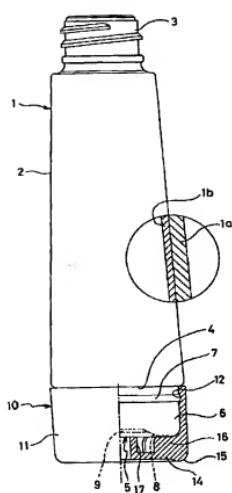
【図3】



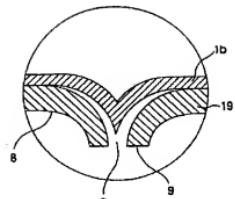
【図4】



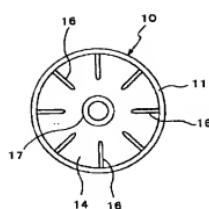
【図1】



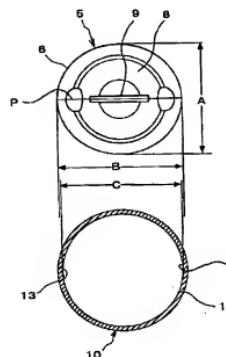
【図5】



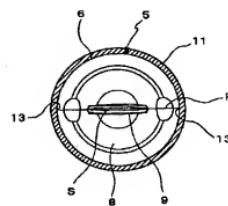
【図6】



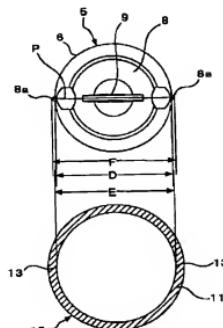
【図8】



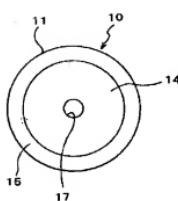
【図9】



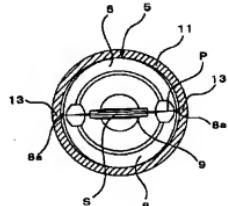
【図10】



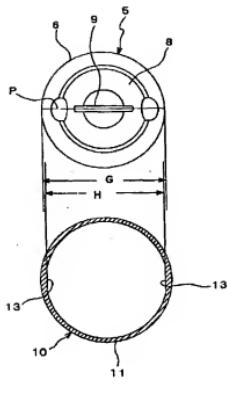
【図7】



【図11】



【図12】



【図13】

